

SOUTHWEST FISHERIES SCIENCE CENTER

FOURTH QUARTER REPORT-FY 2003
For the Period July 1, 2003 - September 30, 2003

SUBMITTED BY: Division Director: Norm Bartoo, Fisheries Resources Division

Title of Accomplishment or Milestone: Southern California Juvenile Shark Survey.

Current Status of Accomplishment or Milestone: The juvenile shark abundance survey, conducted since 1994, provides CPUE trend analysis, abundance indexing, and a series of experiments providing information on reproductive biology, age and growth, movement patterns, and post-release survival.

Background: The California/Oregon driftnet fishery catches a significant number of juvenile thresher, mako and blue shark. Recent closures north of Point Conception, California have increased fishing effort south of the Point to the California – Mexican border. These stocks are transboundary with northern Mexico where they have also come under increased commercial fishing pressure. Currently there are no stock assessments for these species although they will soon be managed under the new west coast fishery management plan. The National Plan of Action for Sharks (NPOA) further requires stock assessments within two years. In support of assessments, indices of relative abundance and changes in size and catch can provide fishery managers with important information on stock condition.

Purpose of Activity: Provide fishery-independent data on relative abundance, size of catch, and life history parameters needed to address issues of stock condition.

Description of Accomplishment (e.g., to the Center, to Management, and to NMFS Strategic Plan Goals) and Significant Results: The most recent survey (June 21 and July 7, 2003) sampled 28 stations and captured, 63 mako, 1 thresher, 101 blue sharks and 30 pelagic rays. A total of 6,185 hooks were fished at the 28 sampling stations. Captured sharks were tagged with conventional spaghetti tags, satellite transmitting tags and tetracycline. The preliminary data indicates overall catch rate was 0.33 per 100 hook-hours for mako and 0.53 per 100 hook-hours for blue sharks. The cpue for mako while similar to prior years continues to decline. The cpue for blue shark is only slightly higher than last year. In addition, 138 sharks were tagged with conventional tags for movement data, 34 marked with OTC for age and growth studies, 38 DNA samples were collected and 25 blood samples obtained for condition and post release survival studies. Four adult blue sharks were tagged with a total of 7 satellite archival tags in a cooperative TOPP project to define the physical habitat of Pacific blue sharks. Thirteen satellite pop up tags and 7 SPOT transmitters were deployed on 13 individual mako sharks in a continuing series of habitat, migration and condition studies. Early results indicate blue, and mako sharks surface briefly and data transmissions are providing temperature and location data daily. Three pelagic rays were collected by Monterey Bay Aquarium staff and shipped to Monterey for age and growth studies.

Significance of Accomplishment: This survey provides the only fishery-independent estimate of juvenile pelagic shark abundance off the West Coast. It further accomplishes recommendations in both the International- and National Plan of Action for Sharks (IPOA and NPOA). Results to date indicate some declines in cpue and size of catch. Concurrent studies are providing valuable information on the life histories and efficacy of these populations.

Problems: None

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